

Cosmic Origins Program Analysis  
Group Report  
Astrophysics Advisory Committee  
Meeting – July 24, 2018

Paul Scowen  
(COPAG EC Chair)

# COPAG EC Membership

**Paul Scowen** (Chair, APAC Member)

**Lee Armus** ~

**Misty Bentz**

**Suvi Gezari** ~

**Joseph Lazio** \*~

**Janice Lee**

**Paul Lightsey**

**Tom Megeath**

**John O'Meara**

**Claudia Scarlata**

**Jason Tumlinson**

**Sarah Tuttle**

Arizona State University

Caltech

Georgia State University

University of Maryland

NASA/JPL

Caltech/IPAC

Ball Aerospace

University of Toledo

St. Michael College

University of Minnesota

STScI

University of Washington

**Mario Perez** (Executive Secretary, Ex-Officio)

**Eric Tollestrup** (Ex-Officio)

**Susan Neff** (COR Program Office, Ex-Officio)

**Erin Smith** (COR Program Office, Ex-Officio)

NASA HQ

NASA HQ

NASA/GSFC

NASA/GSFC

~ Members rotating off in Fall 2018

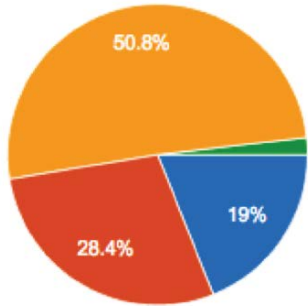
\* Joe Lazio had agreed to extend by 1 year to facilitate new SIG3 leadership structure

# COPAG Activities Since April

- Many COPAG EC members continued to be active contributors to the STDT exercises
- The COPAG EC has continued to track closely STDT activities through members who are on the respective teams:
  - **OST** - Lee Armus
  - **HabEx** - Paul Scowen
  - **LUVOIR** - John O'Meara
  - **Lynx** – Two EC members are part of SWGs - Joe Lazio and Suvi Gezari
- The COPAG EC acted on the approved charter for the new SAG on Great Observatories from April and started to form the new group

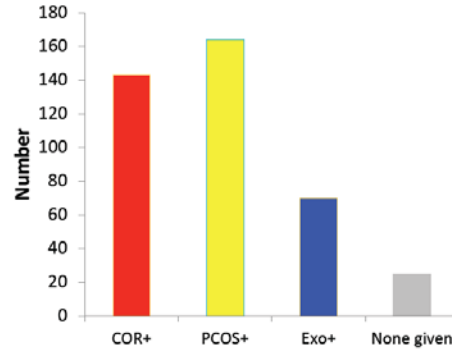
# Community Survey on Possible Delay of Decadal 2020

- In response to concerns about the possibility of a delay in the 2020 Decadal the COPAG EC organized and led a quick survey of the community in the first half of May (closing date May 13<sup>th</sup>)
- To avoid confusion we used a single survey for all 3 PAG communities
- The report on the results of the survey was fast-tracked after the NAS approached the COPAG to get the results as part of their planned response to Paul Hertz.
- The report was published on the COPAG website on May 24<sup>th</sup>, and to all 3 PAG websites at the same time, and is available here:  
[https://cor.gsfc.nasa.gov/copag/Decadal\\_Delay\\_Survey\\_Report.pdf](https://cor.gsfc.nasa.gov/copag/Decadal_Delay_Survey_Report.pdf)
- In the end it was only one of several opinion pieces assembled by the larger community and its representative bodies – all recommended no delay which is where the decision finally came down



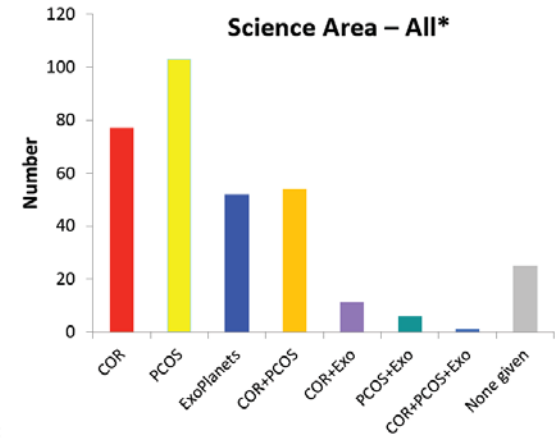
- Early career
- Mid-career
- Senior level
- Other

**Science Area – All\*\***



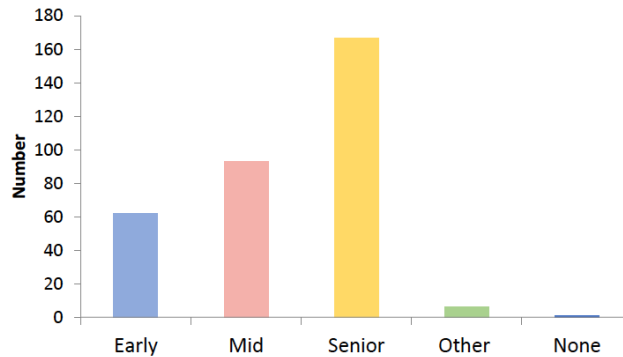
\*\* In this plot, some people are counted 2 or 3 times, e.g. COR+ = COR, COR+PCOS, COR+Exo, and COR+PCOS+Exo: 385 total responses.

**Science Area – All\***



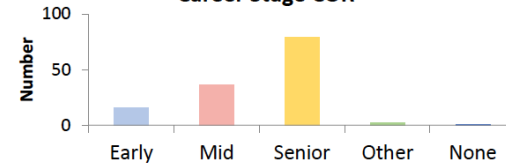
\* In this plot, each person is counted once: 329 responses

**Career Stage - All\***

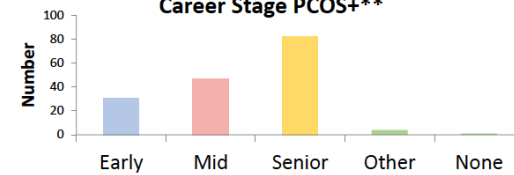


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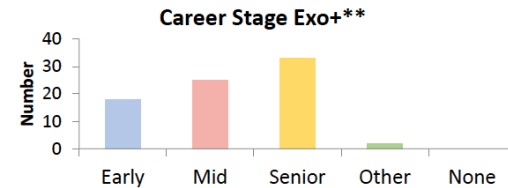
**Career Stage COR+\*\***



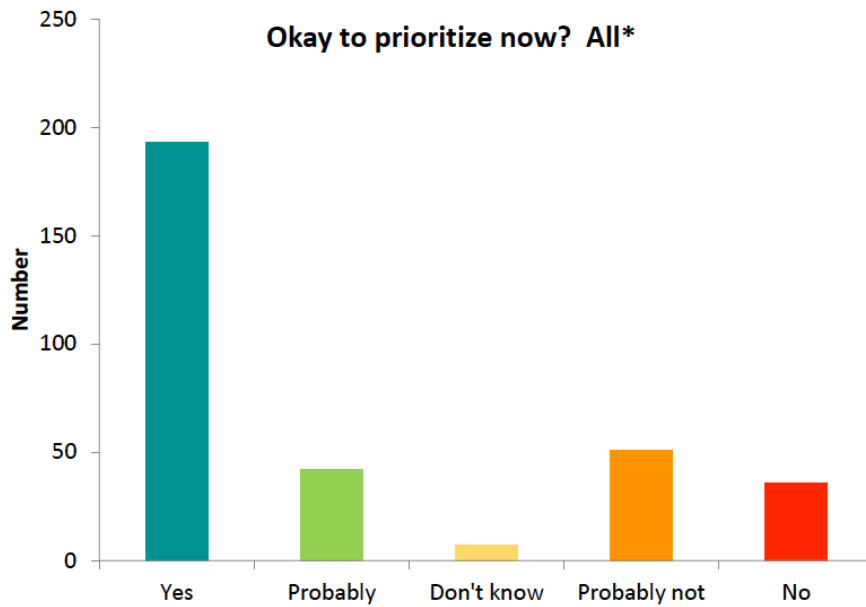
**Career Stage PCOS+\*\***



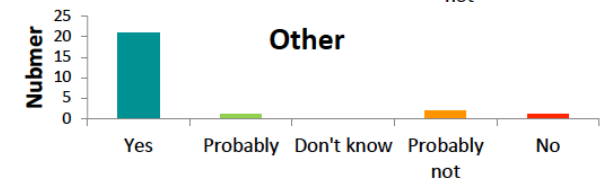
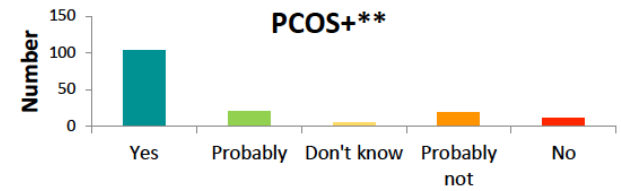
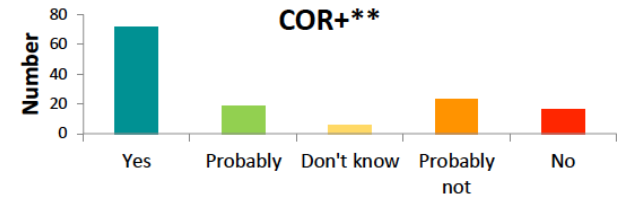
**Career Stage Exo+\*\***



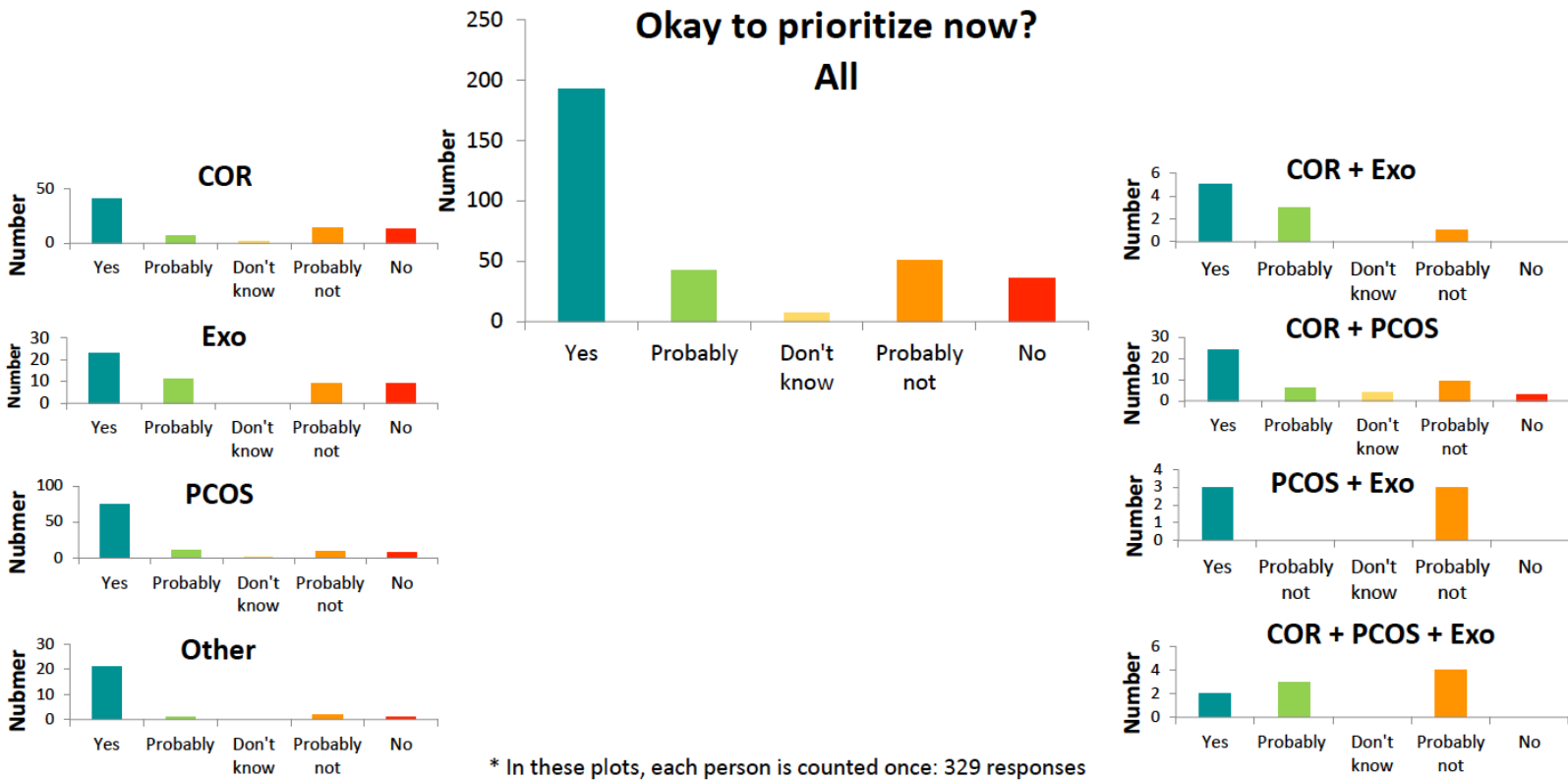
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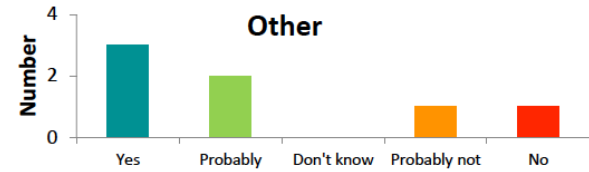
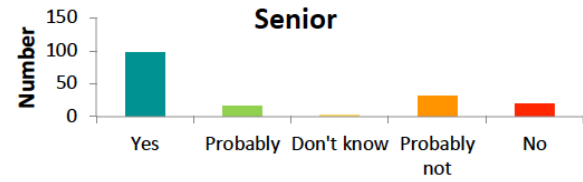
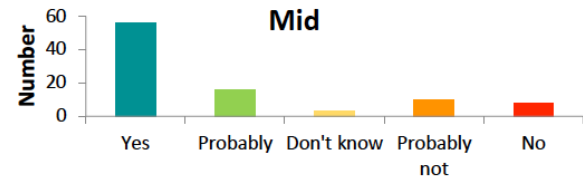
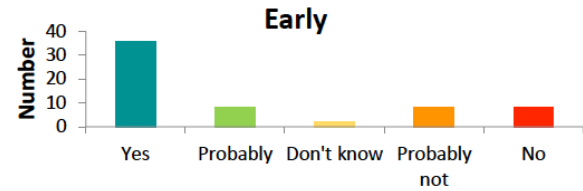
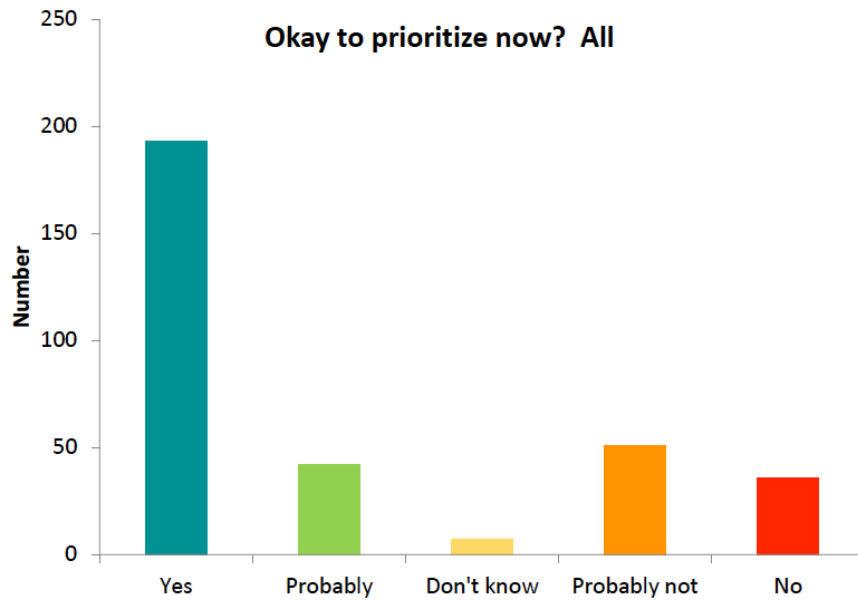


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# COPAG Activities

- COPAG has:
  - 1 open SAG
  - 3 open SIGs
  - 1 TIG
- All 3 SIGs, the SAG and the TIG have started to formulate preparations for the 2020 Decadal Survey and are acting to coordinate efforts without influencing the focus and direction of those efforts

# FIR SIG – Recent Activities

Official website setup at IPAC is now complete

- <http://fir-sig.ipac.caltech.edu>

FIR review article for JATIS

- In referee process
- Anticipate acceptance soon

Coordination of white papers for the decadal review between the FIR SIG leadership council and the OST STDT

- Had face to face conversation with OST STDT in May

Ongoing webinar series covering science/mission topics within infrared astronomy

# FIR SIG – Near-term Plans

## SIG Leadership Council membership Changes

- Naseem Rangwala recently became the new co-chair; Duncan Farrah continues on as the other co-chair
- Four LC members have rolled off
- 3 new recruitments are complete and 4<sup>th</sup> one is in process

## Launch FIR SIG newsletter in the Fall

## Preparing for the 2019 Winter AAS

- Splinter Session requested for Tuesday January 8th

## Organize Decadal white papers with OST

## Expand Decadal white paper coordination to the US FIR community

- Initial Google Doc with list of topics has been circulated within the SIG and OST STDT
- Thinking of organizing a workshop (either in-person or virtual) in the Fall to coordinate this activity

## Tailor the Fall Webinar series to focus on Decadal related activities/white papers

# SIG2 - Astro 2020 Preparation

- SIG 2 leadership council will select a group of facilitators for white papers
- Charge is to assemble white paper teams covering the breadth of SIG2 science
- Goal is to ensure not only that SIG2 science is well represented but that \*ambitious\* SIG2 science is put forward
- Membership building underway

# SIG3 – Cosmic Dawn

- No activity since April

# Great Observatories SAG (SAG#10)

Analyzing the evolution of NASA's multi-wavelength capabilities in space

## Cross-PAG leadership (L. Armus, T. Megeath and COPAG EC)

- Representatives from PhysPAG and ExoPAG EC's identified and added
  - ExoPAG: *Michael Meyer (Michigan)*
  - PhysPAG: *Ralph Kraft (CfA)*

## Community involvement

- Set up GO SAG News item (COR page) and SAG #10 page with charter available
- Sent out email announcement via COR, PCOS and HEAD exploders announcing SAG and soliciting applications for community involvement via Google form (see below)  
*...have 26 responses after 1 day.*
- Explicitly requesting participants at all career levels
- Due date for applications is Aug 10. Expect to select ≈10 members in consultation with EC reps. Regular telecons (bi-weekly?) will begin shortly after.

## Preparing for the 2019 Winter AAS

- Meeting room requested for Sunday, January 6<sup>th</sup>

<https://docs.google.com/forms/d/e/1FAIpQLSey97k8fZzvXJw5YUc7aZ2x8iuDf83FXob9nEOdFN39hJWgw/viewform>

# TIG Activities

- TIG committee had limited activity during Q2
- Met informally by telecon
  - Reviewed proposed Task for group to work on
    - Develop Mission vs. technology matrix for past and future missions
    - Tease out subtleties of TRL assessments
    - For each mission, identify first the broad categories:
      - Orbit
      - Sensor system
      - Observatory support
      - Ground support
      - AI&V support
    - Each broad category will have sub-level detailed categories
    - The goal is to clearly identify the nature of existing technology that has flown (TRL=9) and understand the regression for those technologies as applied to future missions
- Also made contact with MSFC regarding access to REDSTAR data base to extract technical information
  - Employees of prime contractors do not have access
    - Data base includes sensitive cost information
  - Still following up whether other non-civil servants and civil servants on the TIG could access the technical information to share with the committee for assessing state of the art technologies.

# TIG plans

- At COPAG EC meeting discussed the possibility of the TIG expanding its scope of interest
  - Past interest for the PATR concentrated mostly on technologies related to flagship missions
  - Proposed expanding to survey technology interests for other missions from Probe class down to small sat and balloon missions
  - Intent is to coordinate with Mario Perez and Thai Pham
- Invitation to TIG participants to support this effort and kick-off meeting to be done by 1 Aug.



# Develop Mission vs. technology matrix for past and future missions

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# Actions Requested of the APAC

- No actions requested
- Relevant Questions from the COPAG EC:
  - Any further clarification we can get on the range of impacts to APD because of the JWST slip would be appreciated (however we suspect that Paul has said all he can say until the appropriations come in for WFIRST)

# COPAG Future Activities

- Bi-weekly EC telecons will continue
- Continued dialogue and support of ongoing STDT activities
- New SAG will work towards a target of completion during mid-2019
- Work with SAG, SIGs and TIG to plan and organize white papers to the 2020 Decadal
- COPAG EC and the associated science community are available to assist NASA in seeking community feedback and messaging information regarding relevant issues (e.g., JWST delay, WFIRST, etc)
- Identification of new COPAG EC members